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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: EFED Drinking Water and Ecological Risk Review for Coumaphos (036501) IR-4 Use on Beehives DP Barcode D315770

TO: Shaja Brothers, Risk Manager Reviewer
Daniel Rosenblatt, Risk Manager
Registration Division ()

FROM: Edward Odenkirchen, Ph.D., Senior Biologist 5/16/06
Environmental Risk Branch I
Environmental Fate and Effects Division (7507P)

THROUGH: Nancy Andrews, Ph.D., Chief
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Environmental Fate and Effects Division (7507P) 5/16/06

The Registration Division has requested the Environmental Fate and Effects Division to review an IR-4 petition for the use of coumaphos impregnated strips CheckMite+® Pest Control Strip in beehives for the control of varroa mites and small hive beetles within the honeybee colony. The labeling for the IR-4 petition differs from previous Section 18 emergency exemptions for the use of coumaphos in only two ways. The labeling would allow use of the coumaphos product during periods of honey production. The labeling also has been revised for first aid statements in compliance with PR Notice 2001-1.

EFED has reviewed the proposed label use and found a number of key aspects of this use as it relates to both ecological risks and drinking water assessment. First the material is impregnated on a solid substrate which is placed inside the commercial beehive structure. Once in the beehive, the material is sheltered from the elements so that no runoff or drift of coumaphos to surrounding environments would likely occur even during precipitation events. Secondly, the pesticide impregnated strips are placed on the floor of the beehive or between center-most combs of the beehive to eliminate or reduce bee contact with the strips.

Based on this understanding of the use of the product, EFED believes that no drinking water concerns exist for the product used in accordance with the label. The use of the material within a beehive structure effectively eliminates pathways of exposure to surface

and ground waters. EFED believes that a previous drinking water assessment provides the most comprehensive and conservative drinking water estimates for coumaphos. The assessment entitled Revised Tier 1 Drinking Water Assessment for Coumaphos (June, 2000, DP Barcode: D26651) provides an analysis of potential drinking water contamination for other coumaphos uses that would not be expected to be exceeded by any estimate for the beehive use of the pesticide. In that June 2006 assessment GENEEC modeling predicted that the total coumaphos residue concentration (coumaphos + coumaphoxon) in surface water used as drinking water are not likely to exceed 1.86 µg coumaphos equivalents/L for the maximum annual concentration (acute) and 1.22 µg coumaphos equivalents/L for the 56 day average concentration (chronic). SCI-GROW modeling predicted that the total coumaphos residue concentration in groundwater used as drinking water is not likely to exceed 0.17 µg coumaphos equivalents/L.

With respect to ecological risks, the indoor use of the pesticide and the placement of coumaphos-treated strips to avoid contact of bees suggest that there are no complete routes of exposure to surface waters or to the surrounding non-target terrestrial environment. Therefore, without evident complete exposure routes to aquatic and non-target terrestrial organisms, there are no acute or chronic risk concerns and no concerns for effects to federally listed threatened or endangered species.